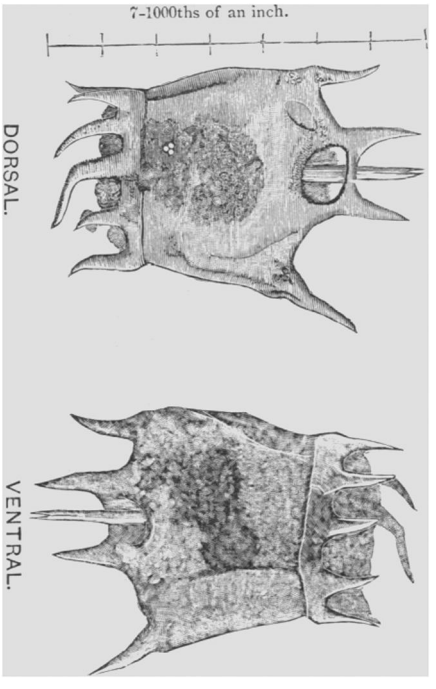
A NEW ROTIFER.

In a filtering of Hemlock lake water (Rochester's water supply) made in August of last year, I noticed a rotifer that at once struck me as different from any that I had before observed or seen described. On classification it proved to be a Brachionus, and a diligent search through the somewhat scattered literature on the subject has since failed to satisfy me that this form has ever been described.



BRACHIONOUS CONIUM.

The Micrographic Dictionary uses the classification of Ehrenberg, while Carpenter in his work, "The Microscope and its Revelations," adopts that of Dujardin. While all classifications of the Rotatoria thus far made are in some ways unsatisfactory, that of Ehrenberg seems the least faulty, and according to it I find that this organism, by reason of having its rotary disk divided into two parts (*Zygotrocha*) and having a carapace, would show that it belongs to the family "*Brachionæa*." There are five genera in this family. The Brachionus has one eye-spot and forked foot, and to this genus the rotifer unquestionably belongs: "*Brachionus Conium*."

Lorica irregularly truncate, slightly reticulated over entire surface except the collar carrying frontal spines; this latter portion has a hard vitreous appearance.

Ten frontal spines, the middle one on the dorsal surface longer than the balance and describing almost a right angle turn near its center to one side. This spine half as long as the carapace of the rotifer. Eye-spot prominent. No openings on dorsal surface of carapace.

Four posterior spines, one at either extreme side and one on either side of anal opening. Tail or foot, slender and bifid. Extreme length of rotifer including anterior and posterior spines, seven one-thousandths (7-1000ths) of an inch.

Unfortunately a dead specimen had to be used for the drawing, hence no definite description can be given of mouth parts for internal structure. The external appearance is, however, so strikingly characteristic as to serve all purposes of identification until the internal structure can be fully described. H. F. ATWOOD.

MICROSCOPICAL NOTES.

The subject of standard screw gauges was recently brought before the R. M. S., and the question of the accuracy of 50 duplicates, made for distribution, was discussed. Mr. Bevington considered "they were as near the standard as could be expected." Mr. Beck pronounced them on trial to be defective. It seemed to be conceded that the original "taps and dies" had been lost, but as Mr. Crouch thought that the present set of duplicates was sufficiently perfect for all practical purposes, we suppose opticians must rest and be thankful for what they can obtain. Considering the deterioration, which must occur from the wear and tear of the cutter, it is to be regretted that perfect accuracy cannot be given to the standard gauges issued by this society.

On the presentation of a paper by Mr. Shrubsole on the "*Diatoms of the London Clay*," the President, Professor Martin Duncan, made the following interesting statement on the subject. He said that "those who studied this class of subjects would be greatly interested in the paper which had been brought before them; and no doubt had it been read before the Geological Society, there would have been considerable discussion upon it. The London clay had at the bottom of it large beds of pebbles; these were all water-worn, and clearly indicated an old shore. Just above this, on a sinking shore like it, would be precisely where they should expect to find diatoms. But the London clay just above this became a little more marine, and this fact would account for their not finding these fresh-water forms there also. Then it should be remembered that the occurrence of diatoms was subject to great variations, and that they were always found in greatest abundance in the neighborhood of silicious rocks. As regarded their age, he thought there could be no doubt that they lived at the time of the Lower Eocene. There were, however, some peculiarities about the London clay, there being no other strata which were deposited under the same conditions, because it was not a reef deposit, but it positively told the story of an open estuary leading down to a very large river. This was one reason why they would not find the diatoms in similar deposits in Italy or Wales. It was not an uncommon thing to find that in other fossils the carbonate of lime was replaced by sulphide of iron. Phosphate of lime was often also replaced by sulphide of iron, and the interstices of other fossils were often found filled with the same substance, which was an exceedingly common mineral in the London clay. Silica was not the difficultly-soluble substance which it was formerly thought to be, so that its place could be as easily filled up by any other mineral which was less soluble than itself—from which consideration he thought the matter might be explained. But when they came to the question of antiquity, it was not so easy to give an opinion as to whether Count Castracane's diatoms in the Carboniferous series were with good reason thought to be diatoms. In the Tertiary of course they found them; but if Count Castracane's propositions hold good, we ought to be sure to find them in the intermediate series."

Mr. Shrubsole said Mr. Kitton's idea was that they were fresh water diatoms which had been washed down into the coal-beds.

The President expressed himself unable to accept such a suggestion.

LAST week the Whittaker Court Marshal was continued, and Dr. Piper of Chicago, was examined as an expert on Microscopy. In cross-examination questions were submitted to the witness on the construction of the Microscope, which Dr. Piper admitted were beyond his knowledge. One question related to the composition of the glass used for the construction of lenses for the Microscope.

Possibly few Microscopical experts could answer